ACC NR: AM5011709 MONOGRAPH UR

Gruzdev, Igor' Aleksandrovich; Kadomskaya, Kira Pantoleymonovna; Kuchumov, Leonid Aleksandrovich; Luginskiy, Yakov Natanovich; Portnoy, Marlen Gdalevich; Sokolov, Nikolay Ivanovich

16

Using analog computers in power systems; methods for analyzing transient processes (Primeneniye analogovykh vychislitel'nykh mashin v energeticheskikh sistemakh; metody issledovaniy perekhodnykh protsessov) Moscow, Izd-vo "Energiya", 1964. 407 p. illus., biblio. 5,000 copies printed.

TOPIC TAGS: analog computer, electromagnetism, electric engineering, electric power engineering, mathematic model, computer circuit, computer application, [illegible]

PURPOSE AND COVERAGE: This book is concerned with the application of analog computers to the study of electromechanical and electromagnetic transient processes in power systems. It presents methods for mathematical modeling, circuits for special-purpose devices used in general-purpose computer studies, and examples of completed investigations. The book is intended for engineers at scientific research and planning institutes, workers at power systems, and students taking advanced courses in electric power and electromechanics.

TABLE OF CONTENTS [abridged];

Card 1/2 UDC: 681.142.33/.34:620.9

ACC NR: AM5011709

SUB CODE: 09,13,20/ SUBM DATE: 31Oct64/ SOV REF: 083/ OTH REF: 001

Card 2/2

KUCHUMOV P. S.

27796. KUCHUMOV P. S. — Elektrotraktov. ILL. G. vasil'yeva i A. katkovskiy. Tekhnika — Molodezhi, 1949, No. 8, C. S. 15-17

SO: Letopis' Zhurnal'nykh Statey, Vol. 37, 1949

38161. KUCHUMOV, P. S.

Sel'skoye khozyaystvo Sovetskogo Soyuza - samoye peredovoye, vysokomekhanizirovannoye. Mekhanizatsiya trudoyemkikh i tyazhelykh rabot, 1949, no. 12, s. 22-26

KUCHUMOV, P.

Hard core of agricultural industry. Tekh.mol. 21 no.12:1-5 D '53. (MLRA 6:11)

1. Zamestitel' ministra sel'skogo khozyaystva SSSR.
(Machine-tractor stations) (Farm mechanization)

KUCHUMOV, P S

EPP,
.R92235

MASHINNO-TRAKTORNUYE STANTSII INUSTRIAL'NAYA MATERIAL'NO-TEKHNICHESKAYA BAZA KOLKHOZNOGO STROYA. DOGOVORNYYE OTNOSHENIYA MTS S KOLKHOZAMI. MOSKVA, 1954.

43 P. TABLES.

AT HEAD OF TITLE-PAGE: KOMMUNISTICHESKAYA PARTIYA SOVETSKOGO SOYUZA. VYSSHAYA PARTIYNAYA SHKOLA.

KUCHUMOV, P.S.

ARTEM'YEV, Yu.N., kandidat tekhnicheskikh nauk; ALEKSEYEV, I.A., inzhener; ASTVATSATUROV, G.G., inzhener; BISNOVATYY, S.I., inzhener; BONDARENKO, A.F., inzhener; GURAL'NIK, Ye.L., inzhener; GORBUNOV, M.F., inzhener; ZLATKOVSKIY, A.P., kandidat tekhnicheskikh nauk; KATTS, N.V., inzhener, KITAYEV, A.S., inzhener; KOZLOV, A.M., inzhener; LEONOV, P.T., inzhener; LIVSHITS, L.G., kandidat tekhnicheskikh nauk; LIBERMAN, A.R., inzhener; LINNIK, Ye.M., inzhener; LUKANOV, M.A., inzhener; MOROZOV, S.A., inzhener; POGORELYY, I.P., kandidat tekhnicheskikh nauk; PETROV, S.A., kandidat tekhnicheskikh nauk; PYATETSKIY, B.G., inzhener; RABOCHIY, L.G., kandidat tekhnicheskikh nauk; SELIVANOV, A.I., kandidat tekhnicheskikh nauk; FERBERG, B.S., kandidat tekhnicheskikh nauk; CHISTYAKOV, V.D., inzhener; CHUNIKHIN, V.M., inzhener; SHIRYAYEV, A.I., inzhener; SHCHUPAK, A.D., inzhener; KUCHUMOV, P.S., inzhener, redaktor; PETROV, S.A.; PESTRYAKOV, A.I., redaktor; [illegible] A.I., tekhnicheskiy redaktor.

[Handbook of equipment for repairing tractors and agricultural machinery] Spravochnik po oborudovaniiu dlia remonta traktorov i sel'skokhoziaistvennykh mashin. Moskva, Gos. izd-vo selkhoz. lit-ry, 1954. 646 p. (MLRA 7:11)

(Tractors--Repairing) (Agricultural machinery--Maintenance and repair)

KORBUT, L.A.; BUYANOV, A.I.; SVIRSHCHEVSKIY [deceased]; KALASHNIKOV, P.A., redaktor; KUCHUMOV, P.S.; MAUMOV, V.I., redaktor; UDALOV, A.G., tekhnicheskiy redaktor.

[Organizational and technical specifications for tractor work in machine-traktor stations] Organizatsionno-tekhnicheskie pravila proizvodstva traktornykh rabot v mashinno-traktornykh stantsiiakh. Izd. 2oe, perer. i dop. Moskva, Izd-vo Ministerstva sel'skogo Khoziaistva SSSR, 1955. 336 p. (MLRA 9:4)

1.Russia (1923- U.S.S.R.) Glavnoye upravleniye mashinno-traktornykh stantsii i mekhanizatsii. 2. Zamestitel' ministra sel'skogo khozyaystva SSSR (for Kuchumov).
(Machine-tractor stations)

VORONIN, B.G.,redaktor; KOGAN, Ye.A.,redaktor; KRYLOV, G.A.,redaktor; KUCHUMOV, P.S.,redaktor; PICHUGIN, N.P.,redaktor; VOL'FOVSKAYA, D.N., redaktor; PESTRYAKOV, A.I.,redaktor; VESKOVA, Ye.I., tekhnicheskiy redaktor

[Over-all mechanization of agricultural production] Kompleksnaia mekhanizatsiia sel'skokhoziaistvennogo proizvodstva. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1956. 615 p. (MLRA 10:4)
(Farm mechanization)

KUCHUMOV, P.S.

What collective and state farms expect from machinery manufacturers.
Trakt.i sel'khozmash. 31 no.8:1-4 Ag '61. (MIRA 14:7)

1. Predsedatel' Vsesoyuznogo ob"yedineniya Soveta Ministrov SSSR "Soyuzsel'khoztekhnika".
(Agricultural machinery industry)

[redacted]

[redacted]

Povyshyeniye effyektivnosti vnutrisortovykh skryeshchivaniy u kulbturnykh. Rastyeniy. Agrobiologiya, 1949, No. 4, S. 83-90

SO: L'TOPIS No. 34

KUCHUKOV, P. V.; ZDRIL'KO, A. F.

Ukraine - Wheat

Varities of spring wheat for irrigation. Sel. i sem. 20, No. 3, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassifi ed.

1. KONONENKO, B.M.; KUCHUMOV, P.V.

2. USSR (600)

4. Corn (Maize)

7. Improving the quality of seed corn, B.M. Kononenko, P.V. Kuchumov, Sel. i sem. 20 no. 5, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

Name: KUCHUMOV, Petr Vasil'yevich

Dissertation: Selection of Spring Wheat for the Left Bank Ukraine

Degree: Doc Agr Sci

Affiliation: Inst of Genetics and Selection, Acad Sci UkSSR

Defense Date, Place: 11 Jan 56, Council of All-Union Sci Res Inst of Plant Cultivation

Certification Date: 13 Oct 56

Source: BMVO 6/57

M

Country : USSR
Category: Cultivated Plants. General Problems.

Abs Jour: RZhBiol., No 11, 1958, 48829

Author : Kuchumov, P.V.
Inst : -
Title : Method of Hybridization in Selection Work.

Orig Pub: Selektsiya i semenovodstvo, 1956, No 4, 17-21

Abstract: This is a brief review of literature on the hybridization of plants.

Card : 1/1

M-5

USSR / General Biology. Genetics. Plant Genetics. B-3

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 61944

Authors : Kuchumov, P. V.; Kovalevskaya, N. I.
Inst : University of Khar'kov
Title : Directed Raising of Spring Wheat Hybrides

Orig Pub : V. sb.: Vopr. metodiki selektsii pshenitsy i kukurusy, Khar'kov. Un-t, 1957, 63-71

Abstract : Experiments were carried out on raising hybrides of hard-shelled and bearded wheat in rich and poor conditions. As F_1 wheat was raised in rich conditions, traits of hard-shelled wheat (wider, unbending ears) were predominant, whereas when it was raised in poor conditions, bearded wheat characteristics prevailed (narrow, breakable ears). In F_2, liberation of parent varieties was clearly noticeable. Here, 78.4 percent of new wheat forms belonged to the hard-shelled wheat variety type, if conditions were favorable. Yet, if raising

Card 1/2

KUCHUMOV P. V.

USSR/Cultivated Plants. Grains. H

Abs Jour : Ref Zhur-Biol., No 15, 1958, 68085

Author : Kuchumov, P. V., Vatulya, Ye. Ye.
Inst : -
Title : Winter Wheat of Gordeiform 46.

Orig Pub : Selektsiya i semenovodstvo, 1957, No 4, 39-41

Abstract : A description of a new variety which has just been submitted for state testing is given here. This variety was obtained by inter-species hybridization of Tr. turgidum x Tr. diccocum. The prospects are pointed out of using Tr. diccocum as a paternal plant by crossing it with cultivated species. Gordeiform 46 gave the highest yields in the irrigated regions of southern Ukraine, and in state testing it exceeded many hard wheat varieties in yields.

Card : 1/2

USSR/Cultivated Plants. Grains.

Abs Jour : Ref Zhur-Biol., No 15, 1956, 66085

When tested in the southern oblast's of the USSR, it proved resistant to high temperatures; in Chkalov and Eastern Kazakhstan oblast's, it yielded more than 40 centners per hectare. -- I. F. Zaikina

Card : 2/2

11

M

Country : USSR
Category: Cultivated Plants. Fodders.

Abs Jour: RZhBiol., No 11, 1958, No 48995

Author : Kuchumov, P.V.; Kovalevskaya, N.I.
Inst : Ukrainian Inst. of Plant Cultivation, Selection and Genetics.
Title : Sudan Grass and Sorghum-Sudan Grass Hybrid With Irrigation

Orig Pub: Nauka i peredov. opyt v s. kh., 1957, No 7, 34

Abstract: Ukrainian Institute of Plant Growing, Selection and of Genetics tried Sudan grass and Sorghum-Sudan Grass hybrid No. 5 in 1955 and in 1956 near Kherson. Hybrid No. 5 was obtained by crossing Sudan grass No. 876 with sugar sorghum Rannly yantar'. In both

Card : 1/2

M-91

M

Country : USSR
Category: Cultivated Plants. Fodders.

Abs Jour: RZhBiol., No 11, 1958, No 48995

years 3 mowings and aftermath were secured each year. The average yield of the green bulk of Sudan grass for two years with 3 mowings a year was 746 cwt/ha. The average hay yield was 172 cwt/ha. The average yield of hybrid No. 5 - 810 cwt/ha. of green bulk or 195 cwt/ha. of hay. -- N.I. Popova

Card : 2/2

VLASYUK, P.A., akademik, otv.red.; YUR'YEV, V.Ya., akademik, zam. otv. red.; BUZANOV, I.F., akademik, red.; DANILENKO, I.A., red.; DELONE, L.N., doktor biolog.nauk, red.; KUCHUMOV, P.V., doktor sel'skokhoz.nauk, red.; POLYAKOV, I.M., red.; STRONA, I.O., kand.sel'skokhoz.nauk, red.; TKACHENKO, F.A., kand.sel'skokhoz. nauk, red.; CHIZHENKO, I.A., kand.ekonom.nauk, red.; LESOVICHENKO, Ya.V., red.; MANOYLO, Z.T., tekhn.red.

[Vegetables and potatoes; works of scientific session, No.2] Ovoshchnye kul'tury i kartofel'; trudy nauchnoi sessii, vypusk 2. Kiev, Izd-vo Ukrainskoi Akad.sel'khoz.nauk, 1960. 132 p. (MIRA 14:1)

1. Ukrainskiy ordena Lenina nauchno-issledovatel'skiy institut rastoniyevodstva, selektsii i genetiki. 2. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I.Lenina (for Danilenko). 3. Chlen-korrespondent AN USSR (for Strona).
(Vegetable gardening) (Potatoes)

VLASYUK, P.A., akademik, otv.red.; YUR'YEV, V.Ya., akademik, zam.otv.red.; BUZANOV, I.F., akademik, red.; DANILENKO, I.A., red.; DELONE, L.M., doktor biolog.nauk, red.; KUCHUMOV, P.V., doktor sel'skokhoz. nauk, red.; POLYAKOV, I.M., red.; STRONA, I.G., kand.sel'skokhoz. nauk, red.; TKACHENKO, F.A., kand.sel'skokhoz.nauk, red.; CHIZHENKO, I.A., kand.ekonom.nauk, red.; KLANINA, L.F., red.; VIDONYAK, A.P., khud.-tekhn.red.

[Problems in improving the quality of agricultural products; proceedings of the scientific session] Voprosy uluchsheniia kachestva sel'skokhoziaistvennoi produktsii; trudy nauchnoi sessii. Kiev, Izd-vo Ukrainskoi Akad.sel'khoz.nauk. No.4. [Feeds and livestock products] Korma i produkty zhivotnovodstva. 1960. 143 p. (MIRA 14:1)

1. Ukrainskiy ordena Lenina nauchno-issledovatel'skiy institut rasteniyevodstva, selektsii i genetiki. 2. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I.Lenina i Ukrainskoy akademii sel'skokhozyaystvennykh nauk; Nauchno-issledovatel'skiy institut zhivotnovodstva Lesostepi i Poles'ya USSR (for Danilenko). 3. Chlen-korrespondent AN USSR (for Polyakov). 4. Ukrainskiy ordena Lenina nauchno-issledovatel'skiy institut rasteniyevodstva, selektsii i genetiki (for Strona).

(Feeds) (Stock and stockbreeding)

ACC NR: AP6028192 SOURCE CODE: UR/0032/66/032/006/0704/0707

AUTHOR: Korovin, Yu. I.; Kuchumov, V. A.; Pronin, I. S.

ORG: none

TITLE: Application of the atomic absorption method for determining chromium and niobium in aluminum-chromium-nickel alloys

SOURCE: Zavodskaya laboratoriya, v. 32, no. 6, 1966, 704-707

TOPIC TAGS: quantitative analysis, aluminum containing alloy, chromium containing alloy, nickel containing alloy, niobium

ABSTRACT: Previous determinations have been made of the sensitivity of the determination of chromium, nickel, copper, and zinc in aqueous solution. Experiments have also shown that the sensitivity of the determination of these elements in an oxygen-hydrogen flame differs only slightly from data obtained in an air-acetylene flame. The sensitivity of the determination of these elements by the atomic absorption method can vary strongly as a function of the composition of the solution under investigation, as a result of a decrease in concentration, in the flame, of atoms capable of absorption. The present article reports an investigation of the effect of nickel, copper, and molybdenum on the determination of chromium, and of the effect of chromium, copper, and molybdenum on the determination of nickel in aluminum alloys.

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ACC NR: AT6028192

It was found that the effect of chromium and nickel and the effect of copper and molybdenum are absent when they are contained in the alloy in amounts up to 2%. The mean quadratic error of a single determination of chromium and nickel, found from 25 measurements, was 4, 1.1, 1.9, and 2.7%, for concentrations of 0.05, 0.15, 0.5, and 1.0%, respectively. Thus, in the proposed fivefold measurement method, the mean quadratic error of the analysis for concentrations of approximately 0.05% was 2-3%, while for greater concentrations, it was equal to or less than 1%. Orig. art. has: 4 figures and 1 table.

SUB CODE: 07, 11/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 005

Card 2/2

KUCHIN[illegible], V. .

Casting of iron rolls into a chill. Lit. proizv. no.11:40 N '64. (MIRA 18:8)

GUBENKO, Ivan Mefod'yevich; KUCHUMOV, Yevgeniy Vladimirovich; PAVLOVSKIY, I.Ye., red.

[Automatic loudspeaker telephone using transistors] Gromkogovoriashchii telefon-avtomat na poluprovodnikakh. Leningrad, 1965. 48 p. (MIRA 18:7)

MOSKVIN, A.K.; IVANOVA, O.M.; KUCHUMOVA, A.N.

Some carbamide-containing complex thorium halides. Dokl. AN SSSR 164 no.4:820-821 O '65. (MIRA 18:10)

1. Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova AN SSSR. Submitted March 24, 1965.

MOLODKIN, A.K.; BALAKAYEVA, Z.A.; KUCHUMOVA, A.N.

Thorium orthophosphates. Dokl. AN SSSR 165 no. [illegible] N '65.
(MIRA 18:11)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR. Submitted April 26, 1965.

RODIONOV, V.M.; KUCHUMOVA, K.I., redaktor; KORUZHEV, N.N. tekhnicheskiy redaktor.

[Collection of alignment charts for radio engineering] Sbornik nomogramm po radiotekhnike; Izd. 2-e, perer. i dop. Moskva, Izd-vo "Sovetskoe radio," 1955. 163 p., 112 nomograms. (MLRA 6:8)
(Radio circuits) (Nomography(Mathematics))

4

Кучумова, К. И.

Call Nr: AF 1141777

AUTHOR: Konev, Yu.I.

TITLE: Transistors in Automatic Control Systems (Kristallicheskiye triody v ustroystvakh avtomaticheskogo upravleniya)

PUB.DATA: Izdatel'stvo "Sovetskoye radio", Moscow, 1957, 160 pp., number of copies not given

ORIG.AGENCY: None given

EDITORS: Shchukin, A.I., Kuchumova, K.I.; Tech.Ed.: Koruzev, N.N.

PURPOSE: The book is written for engineers working in the fields of electronics and electric automation and for students in advanced courses in electronics and radio engineering.

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Call Nr: AF 1141777

Transistors in Automatic Control Systems (Cont.)

COVERAGE: The book presents the fundamentals and characteristic properties of the application of junction type transistors in amplifiers of automatic control systems. The operation of transistors in a-c amplifiers, in amplifiers of the average current and in phase-sensitive amplifying circuits is investigated. An engineering method of designing certain transistorized circuits is presented. The author mentions the names of Sotskov, B.S., Doctor of Tech.Sc., Fedotov, Ya.A. and Shchukin, A.I., as having given him several valuable observations. Several types of transistors of Soviet production are discussed in the text. There are 34 references, 19 of which are Soviet, 7 American and 8 translations into Russian.

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Transistors in Automatic Control Systems (Cont.)

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Transistors in Automatic Control Systems (Cont.)

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Transistors in Automatic Control Systems (Cont.)

Call Nr: AF 1141777

Transistors in Automatic Control Systems (Cont.)

AVAILABLE: Library of Congress

7/7

SUBBOTINA, G.V., kand.tekhn.nauk; TREFILOVA, I.S., kand.tekhn.nauk; ROZENBLAT, M.A., prof., doktor tekhn.nauk, red.; KUCHUMOVA, K.I., red.; GMUROV, B.V., tekhn.red.

[Magnetic elements in automatic control, telemechanics, and computers; annotated list of literature for the year 1957] Magnitnye elementy avtomatiki, telemekhaniki i vychislitel'noi tekhniki; annotirovannyi ukazatel' literatury za 1957 god. Moskva, Izd-vo "Sovetskoe radio." No.1. 1959. 68 p. (MIRA 12:9)

(Electric engineering)

SYTINA, N.V.; KUCHUMOVA, K.I., red.; SMUROV, B.V., tekhn.red.

[Automatic control in the testing of electronic radio equipment; brief survey of foreign literature] Avtomatizatsiia ispytanii radioelektronnogo oborudovaniia; kratkii obzor zarubezhnoi pechati. Moskva, Izd-vo "Sovetskoe radio," 1959. 93 p. (MIRA 13:4)
(Automatic control)
(United States--Electronic equipment and supplies--Testing)

KONEV, Yu.I.; SOTSKIY, B.S., prof., doktor tekhn.nauk, retsenzent; KUCHUMOVA, K.I., red.; SHCHUKIN, A.I., red.; SMUROV, B.V., tekhn.red.

[Application of transistors in automatic control] Poluprovodnikovye triody v avtomatike. Moskva, Izd-vo "Sovetskoe radio," 1960. 446 p. (MIRA 13:11)
(Transistors) (Automatic control)

DROZDOV, Yevgeniy Afanas'yevich; PYATIBRATOV, Aleksandr Petrovich; KUCHUMOVA, K.I., red.; BELYAYEVA, V.V., tekhn. red.

[Automatic conversion and coding of information] Avtomaticheskoe preobrazovanie i kodirovanie informatsii. Moskva, Sovetskoe radio, 1964. 543 p. (MIRA 17:3)

EWT(d) Pn-4

AM5 [illegible] BOOK EXPLOITATION 8/

Martynov, Valentin Alekseyevich; Selikhov, Yuriy Ivanovich

B+1

[illegible] receivers and spectrum analyzers (Panoramnyye priyemniki i analizatory [illegible]) Moscow, Izd-vo "Sovetskoye Radio", [illegible] illus., biblio. [illegible] copies printed. Under the editorship [illegible] Editor: K. [illegible] [illegible]mova; Technical editor: G. Z. Shalimova

[illegible]: panoramic radio receiver, radio emission [illegible] analyzer, narrow [illegible] channel, wide band channel, frequency converter

AND COVERAGE: This book was intended for [illegible], engineers, and students [illegible] concerned with problems [illegible] for radio communi- [illegible] principles and [illegible] analysis of the [illegible] fields of appli- [illegible] panoramic radio [illegible] requi- [illegible] [illegible] [illegible]ed, the relationship [illegible] [illegible]ed; design relationships [illegible] systems for [illegible] analyzed. Basic theoretical [illegible] [illegible]ions are illus-

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treated on examples of existing apparatus. Recommendations are given concerning the [illegible] channels and subassemblies. In addition to the [illegible] A. Kalyutin [illegible] applied writing some sections [illegible] Candidate of Technical Sciences [illegible].

TABLE OF CONTENTS:

AM5008924

Literature - - 405

S M CODE: EC SUBMITTED: 5Nov64 NR REF SOV: 045

OTHER: 002

Card 3/3

RODIONOV, V.M.; BENENSON, L.S., red.; KUCHUMOVA, K.I., red.

[Transmission lines and superhigh frequency antennas; collection of nomograms] Linii peredachi i antenny sverkhvysokikh chastot; sbornik nomogramm. Moskva, Sovetskoe radio, 1965. 118 p. (MIRA 18:7)

SEMENOV, Konstantin Aleksandrovich; KUCHUMOVA, K.I., red.

[Radio receiving and amplifying systems] Radiopriemnye i usilitel'nye ustroistva. Moskva, Sovetskoe radio, 1965. 646 p. (MIRA 18:10)

3 (7)

AUTHORS: Cal'perin, B. M., Kuchumova, L. S. SOV/50-59-8-5/19

TITLE: On the Influence of Cloudiness on the Radiation of the Atmosphere (O vliyanii oblachnosti na izlucheniye atmosfery)

PERIODICAL: Meteorologiya i gidrologiya, 1959, Nr 8, pp 19 - 24 (USSR)

ABSTRACT: A weak point in the climatological calculations of longwave radiation is the consideration of cloudiness. The consideration is done by the formulas $P_n = P_o(1 + Kn^\alpha)$ and $E_n = E_o(1 - Cn^\alpha)$. P_n is the radiation of the atmosphere, E_n the effective radiation of the black body (at the corresponding air temperature) in the presence of clouds, P_o and E_o the same values if there are no clouds, n = cloudiness, K and C are the coefficients characterizing the influence of various clouds on the radiation of the atmosphere and the effective radiation. The values for K for clouds in different altitudes under any meteorological conditions are obtained here. As in the papers (Refs 5, 9, 13), the authors are also here of the opinion that physically and methodically the introduction of a correction for the cloudiness with respect to the radiation of the atmosphere is more

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justified than one with respect to the effective radiation. For this purpose, the radiation of the atmosphere in a cloudless sky (P_o) and with full cloudiness (P_n) were computed on the levels of 0.5, 1.0, 2.0 and 4.0 km in 23 points of different areas on the eastern and western hemispheres from 21 to 78° northern latitude after computing the aeroclimatic data of the vertical distribution of temperature, air moisture and atmospheric pressure. The computations were carried out according to the radiation diagram by F. N. Shekhter (Ref 10) by the method described in the paper (Ref 2). The students of the LGMI V. M. Artem'yeva, T. A. Belik, N. S. Nakhamchina et al. took part in these time-consuming investigations. In the computation of P_n it was assumed that the continuous cloud cover in all mentioned altitudes radiates like a black body. K was computed from $K = \frac{P_n - P_o}{P_o}$ for the 4 levels mentioned. These coefficients do not characterize the absolute but the relative influence of the cloud cover on the radiation of the atmosphere. The computa-

tions showed that everywhere and in all altitudes an annual course of K with a maximum in winter and a minimum in summer can be observed; from summer until winter, K can sometimes increase by more than double its value. In no season, however, is there a clear dependence of the coefficient K on latitude. The results put forward here show that the use of the mean annual values, or even the mean seasonal values, of K in the computation of atmospheric radiation in the single months can lead, in various climatic regions, to big errors in the determination of the longwave radiation gain. The diagrams show the dependence of the difference $P_n - P_o$ on the effective absorbing atmospheric mass (M) at different temperatures (t) of the cloud layer, the dependence of the coefficient K_1 (at a cloud height of 1 km) on M, the dependence of the coefficient K_1 on the temperature T_1 at the base of cloud, and the dependence of K_1 on the air moisture near the ground e_o. Table 1 shows the K-values (in %) taken from the correlation curves for the 4 levels mentioned

at different e_o. These data can be used to obtain the mean K-values according to the known mean monthly air moisture. There are 6 figures, 1 table, and 14 references, 12 of which are Soviet.

[illegible], [illegible]

Kuchmnova, N. A. "On the activity of aluminum chloride [illegible] according to Radzivanovskiy," Nauch, byulleten' Leningr. gos. un-ta im. Zhdanova, No. 24, 1949, p. 22-23

SO: U-4934, 29 Oct 53, (Letopis 'Zhurnal 'nykh Statey, No. 16, 1949)

C.A.

15

THE ACTIVITY OF ALUMINUM CHLORIDE PREPARED BY THE METHOD OF RADZIVANOVSKII. I. ACTIVITY OF ALUMINUM CHLORIDE PREPARED ACCORDING TO RADZIVANOVSKII IN THE REACTION OF BENZENE WITH ETHYL BROMIDE. P. M. Dolgov and N. A. Kuchumova (A. A. Zhdanov State Univ., Leningrad). Zhur. Obshchei Khim. (J. Gen. Chem.) 20, 445-8(1950).---$AlCl_3$ prepd. according to Radzivanovskii [Ber. 28, 1135 (1895)] from Al and HCl is an active Friedel-Crafts catalyst. In the C_6H_6-EtBr reaction with 2% catalyst a 73% yield of EtPh is attained at 10-12°. C_6H_6 (200 g.) and 4 g. Al shavings treated with dry HCl until a brown coating covered the catalyst, then with 1 0 g. EtBr, and let stand 48 hrs. at 10-12°, followed by refluxing 2 hrs., gave 73% EtPh, b. 132-4°, d_4^{20} 0.8703, n_D^{20} 1.4950, 16-18% $Et_2C_6H_4$, mostly the m-isomer with a trace of p-isomer [prepd. according to Vosvinkel, Ber. 22, 318 (1889)], and 2.5% $1,3,5\text{-}Et_3C_6H_3$, b. 212-14°. Nitration of EtPh (25 g.) by addn. in 4 hrs. to 20.5 g. HNO_3 (d. 1.5) and 27 g. H_2SO_4 (d. 1186) in the cold, followed by heating to 135°, gave mainly the 2-nitro deriv., b. 228-7°, d_4^{20} 0.8605, n_D^{20} 1.4980. Similarly m-$Et_2C_6H_4$ gave the 2, 4, 6-trinitro deriv., m. 62-3°, while $Et_3C_6H_3$ yeilded the 2, 4,6-trinitro deriv., m. 108°. Some 2% of higher alkylate was obtained. Increase of the catalyst to 10% lowers the formation of EtPh to 40-5% with a decrease of the diEt deriv. to 10% and a rise of the tri-Et deriv. to 8-10%. The yield was unchanged in 4.5-15.0 hr. reaction periods with dry HCl in the initial step, but the condensation reaction reached a const. yield in 48 hrs.; shorter periods cut the yield severely. O. M. Kosolapoff

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(Continued on next card)

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(Continued on next card)

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nauk, redaktor; MARKOV, N.F., inzhener, redaktor; KALININ, V.K., inzhener, redaktor; STEPANOV, V.N., professor, redaktor; SIDOROV, N.I., inzhener, redaktor; OKHOTSIMSKIY, A.Ye., kandidat tekhnicheskikh nauk, redaktor; ROBEL', R.I., otvetstvennyy redaktor;

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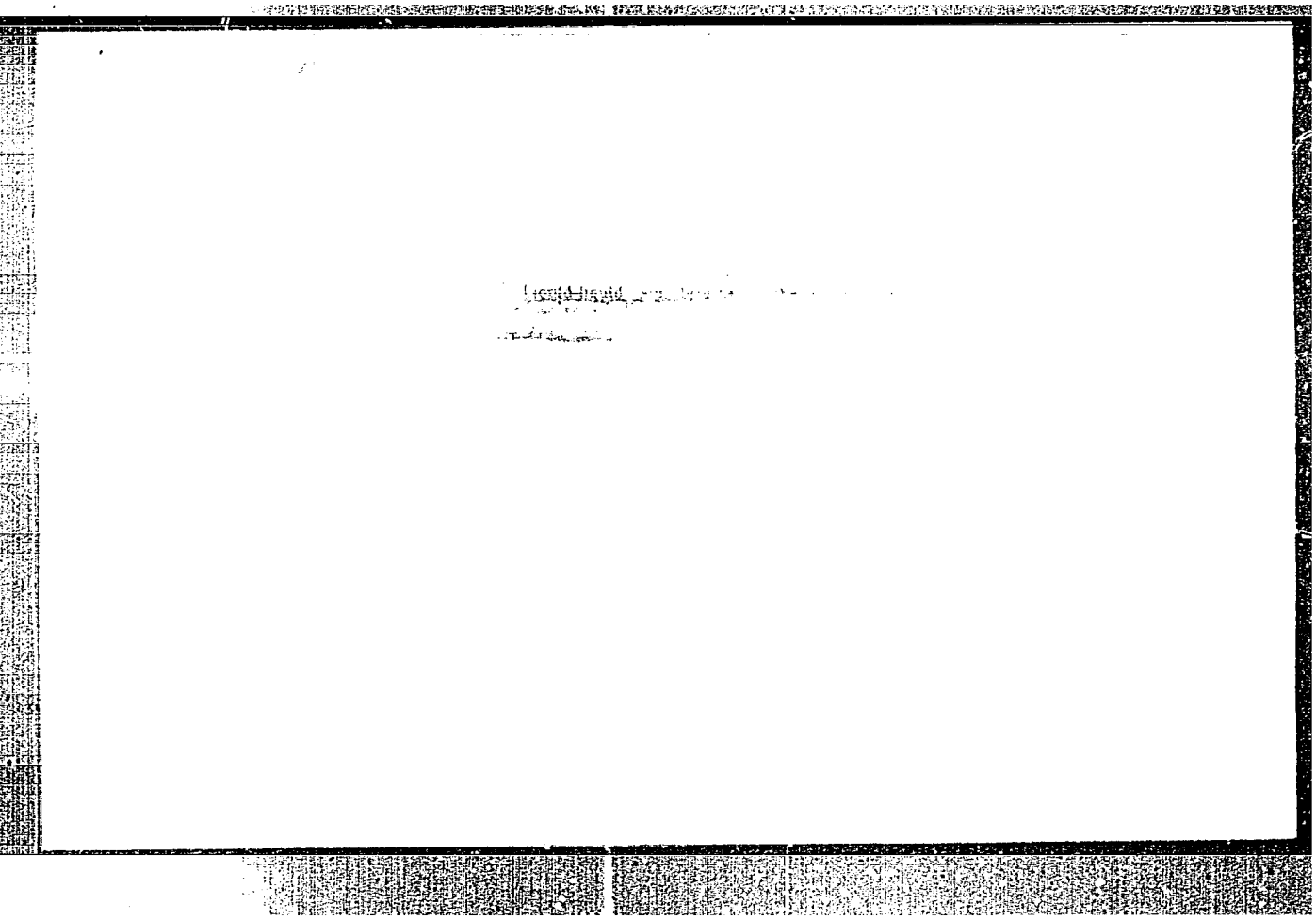

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CZECHOSLOVAKIA

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18(5) POL/39-59-7/8-7/24

AUTHORS: Kucia, K., Kurek, M., and Kwiatkowski, S., Engineers

TITLE: Fracture Tests and Their Usefulness in Evaluating the Quality of Boiler Plates

PERIODICAL: Hutnik, 1959, Nr 7-8, pp 296-301 (POL)

ABSTRACT: Increasing demand for boiler plates with ever better properties have forced producers to turn out plates of increasingly better quality. The purpose of the present article is to discuss some of the modern methods of boiler plate quality control. According to Soviet and Polish specifications, tests for resistance to fracture of boiler plates are made in the following way: a sample twice as wide as it is thick for plates up to 30 mm and one and a half times as wide as it is thick for plates above 30 mm, is broken in order to establish the degree of destratification or decoherence. Samples are taken at both ends, perpendicularly to the direction of rolling. According to these norms, a decoherence of up to 10 mm may be allowed at the point of fracture. Yet this method is

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Fracture Tests and Their Usefulness in Evaluating the Quality of Boiler Plates

not a particularly efficient one. There is also the ultrasonic method, but it has been found that it is not able to detect all cases of destratification. It was found in fact that two types of destratification exist: real and potential. The first one consists of discontinuity in a rolled product and may easily be detected by the ultrasonic method. The second variety appears when the sample is fractured and then only near its surface. This is the more interesting and dangerous type. The tensions which arise in a plate sample during fracture are illustrated in figure 1. The important point is that real decoherence is often due to metal impurities but potential decoherence is rather due to metal fatigue and is much more difficult to detect. It is important therefore to distinguish between these two phenomena. The author then proceeds to recount experiments designed to discover these phenomena by metallographic analysis and to determine the effect of thermal treatment on

Fracture Tests and Their Usefulness in Evaluating the Quality of Boiler Plates

the appearance of the fracture. Tests were made on plate samples tested previously by the ultrasonic method and showing a tendency towards potential destratification. Figures 2-9 show the state of various samples during these tests. It was found that the degree of potential decoherence depends on the degree of stratification of the plate's structure, on temperature and on the speed of fracture. All factors favoring the sample's brittleness tend to decrease the extent of potential decoherence or to do away with it altogether. Stratification and hence potential decoherence may be removed by homogenization (at 1,150°C) and normalization (at 920°C). But the application of these processes simultaneously with mass production is very difficult. The above tests showed further that the stratified structure of boiler plates does not affect welding properties adversely, nor does it depreciate the mechanical properties of the plates. The same may be said of the phenomenon of potential

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Fracture Tests and Their Usefulness in Evaluating the Quality of Boiler Plates

decoherence. It is important to note that the author considers fracture tests inadequate in determining plate quality since these tests are made with samples taken at random and the fracture itself causes the appearance of further potential decoherence during breaking. According to the author, the proper method of testing the quality of boiler plates is the ultrasonic method. Finally, the author considers it imperative that all efforts be made to re-examine rolling methods in order to decrease as much as possible the stratification of plate structure. There are 2 tables, 8 photographs, 1 diagram, and 4 references, 2 of which are Soviet and 2 Polish.

ASSOCIATION: Huta Batory (Metallurgical Plant Batory) (Kucia and Kwiatkowski) IMZ (Institute of Ferrous Metallurgy) (Kurek)

25(1,5)
AUTHOR: Kurek, M., Kucia, K., and Kwiatkowski, St., Engineers

TITLE: The Application of Ultrasonic Methods in the Investigation of Plate Laminations

PERIODICAL: Hutnik, 1958, Vol 25, Nr 2, PP [illegible] (Poland)

ABSTRACT: The great number of laminations in boiler and shipbuilding plates leads to special methods of investigation. So far test specimens (30 mm = 1¼" thick) with a notch of 5 mm were broken. During investigation, it was decided that the sectional area test does not reveal any trend for lamination in the plates; it only shows: a) laminations already existent in the plates after rolling; b) laminations arisen by breaking the test specimens apart. The laminations described under b) have proved less harmful than those under a). There are two methods of ultra-sonic plate tests: 1) the filter method (more easily adapted for automatic serial tests); 2) the tapping method (by tapping the plates with a feeler gadget). In the Metallo-Physical Institute IMŻ in Gliwice, a spe-

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cial roll-feeler gadget was designed. Figures 1 and 2 show its methods of operation Failures up to 10 mm (2/5") Ø call for oscillations, above 10 mm they shift the amplitude to the left of the vertical line. The investigation results are described by the aid of oscillographic diagrams. Hot pourings with a temperature of more than 1630°C and cold pourings with less than 1600°C were tested. The results of the various pouring groups are compiled in Table 1/ It was determined that two skilled workers can easily test 15 plates in 8 hours by the ultra-sonic method. 1) The ultra-sonic method proved to be qualified for testing laminations in plates; 2) The results during investigation have not proved any dependence between the parameters of rolling laminations and the lamination formation in the plates; 3) Considerable dependence was established between the pouring operation and the lamination formation in the plates; 4) Especially good results were achieved with graphitized pourings; 5) The ultra-sonic method enables greater sav-

POL/30-26-2-4/10

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ings. There are 1 table, 9 photographs and 3 diagrams.

ASSOCIATION: Instytut metalurgii zelaza (Metallurgical Steel Institute); Huta Batory

Card 3/3

DZIEMBALA, Henryk; KUCIARA, Boleslaw

New trends in designing coal hoppers. Koks 8 no.4:111-115 Jl-Ag '63.

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MADEJ, Z.; KUCIAS, J.

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1. High Technological School of Light Industry, Moscow (for Strachov and Kucidi). 2. Research Institute of Leather Industry, Gottwaldov (for Benes).

KUCINIC, D.

Surname (Last Name); Given Names

Country: Yugoslavia

Academic Degrees: [not given]

Affiliation: [not given]

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Vol. 8, no. 5, May 1956
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AUTHORS: Burgova, M.P., Kuchirek Ya. and Proskurina, L.

TITLE: Anharmonicity as One of the Characteristics of Intermolecular Interaction (Angarmonichnost' kak odna iz kharakteristik mezhdumolekulyarnogo vzaimodeystviya)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol 5, Nr 2, pp 141-146 (USSR)

ABSTRACT: It was found (Refs 1, 2) that formation of intermolecular saturated bonds (hydrogen-type bonds) are accompanied by discrete changes of vibrational frequencies. This effect was explained by a new quasielastic constant of intermolecular interaction and a change in the quasielastic constant of internal molecular binding which is weakened by association of molecules. The authors' purpose was to find whether there might be a further sign of the presence of such intermolecular saturated bonds. They investigated how the vibrational spectra changes on increase of anharmonicity of vibrations due to intermolecular association. They measured infrared frequencies and intensities of valence vibrations of CH and OH in the region of the fundamental frequency and the two first harmonics. This was done for solutions of phenol, acetic acid and halogen derivatives of methane. The authors also used published data on the spectra of the OH group of alcohols. The infrared absorption spectra were measured using a

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Perkin-Elmer spectrophotometer 12 B with a LiF prism and a spectrophotometer with an echelette grating, prepared at the Physics Institute of the Leningrad State University. Errors in the frequency measurements did not exceed 3 cm^{-1} and those in the intensity measurements were less than 10%. Figs 1-3 give the dipole moments of the hydrogen bonds of several substances as functions of the vibrational quantum number v. Figs 4-5 give the absorption spectra of chloroform and bromoform pure and in solution. From the frequencies and intensities of the infrared spectra mechanical and optical anharmonicities of the X-H groups, where X = O or C, were obtained. It was found that formation of hydrogen bonds produces characteristic changes in the optical anharmonicity. In the case of weak hydrogen bonds bands due to molecular association are absent in the harmonics but are present in the fundamental frequency of valence

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vibrations. The results obtained supplement those reported by Mecke (Refs 4, 5). The authors thank V.M. Chulanovskiy for advice. There are 5 figures, 1 table and 15 references, 3 of which are Soviet, 4 American, 2 German, 1 Japanese, 2 English, 1 French, 1 Australian and 1 from an international journal.

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Card 3/3 1. Molecular association--Analysis 2. Cyclic compounds--Molecular structure 3. Cyclic compounds--Spectrographic analysis 4. Spectrophotometers--Equipment 5. Infrared spectroscopy--Applications

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Potential constants of molecules and the thermodynamic functions of CeH_4, GeF_4, $GeCl_4$ $GeBr_4$ and GeJ_4. Coll Cz Chem 25 no.1:31-37 Ja '60. (EEAI 9:12)

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(Germanium hydrides)
(Germanium fluoride)
(Germanium chloride)
(Germanium bromide)
(Germanium iodides)